

GLACIOLOGICAL LITERATURE

THIS selected list of glaciological literature has been prepared by J. W. Glen with the assistance of T. H. Ellison, W. B. Harland, Miss D. M. Johnson, W. H. Ward, G. T. Warwick and the Staff of the Scott Polar Research Institute. Its field is the scientific study of snow and ice and of their effects on the earth; for the literature on polar expeditions, and also on the "applied" aspects of glaciology, such as snow ploughs, readers should consult the bibliographies in each issue of the *Polar Record*. For Russian material the system of transliteration used is that agreed by the U.S. Board on Geographic Names and the Permanent Committee on Geographical Names for British Official Use in 1947. Readers can greatly assist by sending reprints of their publications to the Society, or by informing Dr. Glen of publications of glaciological interest.

In this list, to avoid repetition, the references to papers in the proceedings of two recent conferences have been abbreviated. The full references to both publications are given in the section CONFERENCES below.

CONFERENCES

[UNION GÉODÉSIQUE ET GÉOPHYSIQUE INTERNATIONALE.] *Union Géodésique et Géophysique Internationale. Association Internationale d'Hydrologie Scientifique. Assemblée générale de Toronto, 3-14 sept. 1957. Tom. 4: Neiges et glaces.* Gentbrugge, Association Internationale d'Hydrologie Scientifique, 1958. 564 p. 300 Bel. fr. (Publication No. 46 de l'Association Internationale d'Hydrologie Scientifique.) [For details of some of papers presented, see elsewhere in this list.]

[UNION GÉODÉSIQUE ET GÉOPHYSIQUE INTERNATIONALE.] *Physique du mouvement de la glace. Union Géodésique et Géophysique Internationale. Association Internationale d'Hydrologie Scientifique. Symposium de Chamonix, 16-24 sept. 1958.* Gentbrugge, Association Internationale d'Hydrologie Scientifique, 1958. 394 p. 300 Bel. fr. (Publication No. 47 de l'Association Internationale d'Hydrologie Scientifique.) [For details of some of papers presented, see elsewhere in this list.]

GLACIOLOGICAL INSTRUMENTS AND METHODS

ABRAMSON, H. N. Theoretical investigations of the four-electrode crevasse detector. *Transactions. American Geophysical Union*, Vol. 38, No. 6, 1957, p. 849-56. [Study aimed at improving model developed by Southwest Research Institute (1955).]

BOGORODSKIY, V. V. Ul'trazvukovoy metod opredeleniya tolshchiny l'dov [Ultrasonic method of determining the thickness of ice]. *Problemy Arktiki [Problems of the Arctic]*, 1958, Vyp. 4, p. 65-77. [Experiments giving good results with sea ice up to 1 m. and fresh water ice up to 1.4 m. thick.]

BROCKAMP, B. Reflektionseismische Wiederholungsmessungen auf dem Pasterzegletscher und ihre Bedeutung für die Feststellung von Gletscher- und Inlandeisschwankungen. *Union Géodésique . . . Toronto, 1957*, Tom. 4, 1958, p. 509-13. [Use of seismic or gravity sounding to study changes of glacier thickness demonstrated by comparing measurements on Pasterze in 1929 and 1955.]

WARD, W. H. Surface markers for ice movement surveys (Cambridge Austerdalsbre Expedition). *Union Géodésique . . . Chamonix*, 1958, p. 105-10. [Description of augers and markers used for accurate surface velocity and strain measurement.]

PHYSICS OF ICE

BASS, R. *Zur Theorie der mechanischen Relaxation des Eises*. Ludwigshafen a. Rh., [privately printed], 1958. 33 p. [Theoretical calculation of damping of mechanical vibrations in ice single crystals. Dissertation submitted to Technische Hochschule, Stuttgart.]

BLACKMAN, M., and LISGARTEN, N. D. The cubic and other structural forms of ice at low temperature and pressure. *Proceedings of the Royal Society*, Ser. A, Vol. 239, No. 1216, 1957, p. 93-107. [Study of crystallography of ice deposited from vapour at low temperatures shows that vitreous, cubic or hexagonal ice can be formed. Similar results obtained with D₂O.]

BLACKMAN, M., and LISGARTEN, N. D. Electron diffraction investigations into the cubic and other structural forms of ice. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 189-98. [Review of studies made on ice at ordinary pressures which give evidence for structures other than hexagonal structure of ice-I.]

BUTKOVICH, T. R., and LANDAUER, J. K. The flow law for ice. *Union Géodésique . . . Chamonix*, 1958, p. 318-27. [Results of creep tests on single crystals and polycrystalline ice including ice from Greenland.]

FUKUTA, N. Experimental investigations on the ice-forming ability of various chemical substances. *Journal of Meteorology*, Vol. 15, No. 1, 1958, p. 17-26. [Careful determination of threshold temperatures for many substances.]

GLEN, J. W. The mechanical properties of ice. I. The plastic properties of ice. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 254-65. [Review article on plastic properties of single crystals and polycrystals of ice.]

GLEN, J. W. The flow law of ice: a discussion of the assumptions made in glacier theory, their experimental foundations and consequences. *Union Géodésique . . . Chamonix*, 1958, p. 171-83. [Evidence that usual assumptions are not strictly true. Suggestions concerning possible alternatives.]

GRÄNICHER, H., and others. Dielectric relaxation and the electrical conductivity of ice crystals, by H. Gränicher, C. Jaccard, P. Scherrer and A. Steinemann. *Discussion of the Faraday Society*, No. 23, 1957, p. 50-62. [Experiments on frequency variation of dielectric constant in ice, both pure and containing fluoride ions, are discussed theoretically.]

- HALLETT, J., and MASON, B. J. Influence of organic vapours on the crystal habit of ice. *Nature*, Vol. 181, No. 4607, 1958, p. 467-69. [Effect of alcohol on crystal form adopted by ice growing from vapour.]
- HIGUCHI, K. Layer structure of ice crystal revealed by etching figures. *Union Géodésique . . . Chamonix*, 1958, p. 249-53. [Observation of stepped surfaces in etch pits in ice.]
- HONJO, G., and SHIMAOKA, K. Determination of hydrogen position in cubic ice by electron diffraction. *Acta Crystallographica*, Vol. 10, 1957, p. 710-11. [Results confirm structure similar to Pauling's for hexagonal ice.]
- LAVROV, V. V. Elektroprovodnost' l'da [Electrical conductivity of ice]. *Problemy Arktiki [Problems of the Arctic]*, 1958, Vyp. 3, p. 79-82. [Experiments on resistance of polycrystalline ice from 0° to -25° C.]
- MASON, B. J. *The physics of clouds*. Oxford, Clarendon Press, 1957. xx, 481 p. [Physics of condensation, nuclei, droplets growth, snow crystal growth, natural and artificial precipitation, radar studies of clouds and electrification of clouds. Introduction on large-scale physics of clouds by F. H. Ludlam.]
- MASON, B. J. The supercooling and nucleation of water. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 221-34. [Review article.]
- MASON, B. J. The growth of ice crystals from the vapour and the melt. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 235-53. [Review of experiments on habit and rate of growth of ice crystals.]
- MASON, B. J., and HALLETT, J. Ice-forming nuclei. *Nature*, Vol. 179, No. 4555, 1957, p. 357-59. [Investigations show that AgI, PbI₂ and CuS are efficient nuclei, but that most other reported nuclei are not.]
- NAKAYA, U. Visco-elastic properties of snow and ice in Greenland ice cap. *Union Géodésique . . . Chamonix*, 1958, p. 199-212. [Results of measurements of elastic constant by oscillation, and of damping of oscillations, for samples of snow and ice from Greenland.]
- NAKAYA, U. The deformation of single crystals of ice. *Union Géodésique . . . Chamonix*, 1958, p. 229-40. [Results of bending tests on ice single crystals. Explanation of the geometry of deformation in terms of slip on glide planes and development of small angle boundaries.]
- OCKMAN, N. The infra-red and Raman spectra of ice. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 199-220. [Reviews experimental data and their theoretical interpretation in terms of structure and dynamics of ice lattice.]
- OWSTON, P. G. The structure of ice-I, as determined by X-ray and neutron diffraction analysis. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 171-88. [Review article discussing in particular positions of hydrogen in ice.]
- PEREY, F. G. J., and POUNDER, E. R. Crystal orientation in ice sheets. *Canadian Journal of Physics*, Vol. 36, No. 4, 1958, p. 494-502. [Study of crystal orientation and size in ice plate formed on freezing water. Includes studies in which organic additives are used.]
- PETERSON, S. W., and LEVY, H. A single-crystal neutron diffraction study of heavy ice. *Acta Crystallographica*, Vol. 10, 1957, p. 70-76. [Investigation of crystal structure is in agreement with Pauling's model. Thermal parameters give data on deuterium vibration in D₂O.]
- POUNDER, E. R. Mechanical strength of ice frozen from an impure melt. *Canadian Journal of Physics*, Vol. 36, No. 3, 1958, p. 363-70. [Laboratory experiments with ice containing various impurities.]
- POWELL, R. W. Thermal conductivities and expansion coefficients of water and ice. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 276-97. [Review article. Includes discussion of thermal conductivity and thermal expansion of ice and of thermal conductivity and density of D₂O.]
- ROSSBERG, D., and MAGUN, S. Zur Piezoelektrizität des Eises. *Naturwissenschaften*, Jahrg. 44, Ht. 3, 1957, p. 59. [Attempts to measure piezoelectricity in ice gave no effect.]
- SHALLGROSS, F. V., and CARPENTER, G. B. X-ray diffraction study of the cubic phase of ice. *Journal of Chemical Physics*, Vol. 26, No. 4, 1957, p. 782-84. [Results, including unit cell dimensions.]
- SHUMSKIY, P. A. The mechanism of ice straining and its recrystallization. *Union Géodésique . . . Chamonix*, 1958, p. 244-48. [Discussion of process of firnification and of processes of deformation of ice.]
- STEINEMANN, S. Thermodynamics and mechanics of ice at the melting point. *Union Géodésique . . . Chamonix*, 1958, p. 254-65. [Considers thermodynamics of melting in a temperate glacier and concludes that mechanical properties of ice are not seriously affected by small quantities of water.]
- STEPHENS, R. W. B. The mechanical properties of ice. II. The elastic constants and mechanical relaxation of ice single crystals. *Advances in Physics*, Vol. 7, No. 26, 1958, p. 266-75. [Review article dealing with elastic constants of ice single crystals, with damping of mechanical vibrations in ice, and with theoretical interpretation of damping.]
- WEERTMAN, J. Steady-state creep through dislocation climb. *Journal of Applied Physics*, Vol. 28, No. 3, 1957, p. 362-64. [Theory to explain power law for creep in ice.]

LAND ICE. GLACIERS. ICE SHELVES

- ARMSTRONG, T. E., and ROBERTS, B. B. Illustrated ice glossary. Part 2. *Polar Record*, Vol. 9, No. 59, 1958, p. 90-96. [Land ice and associated terms.]
- AVSYUK, G. A. Les investigations glaciologiques en l'URSS. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 535-52. [Review article of glaciological research in U.S.S.R. Description of current glacierization of U.S.S.R. Soviet plans for glaciology in I.G.Y. English summary p. 535-36.]
- AVSYUK, G. A. Certains renseignements sur le mouvement de la glace dans les glaciers du Thian-Chian. *Union Géodésique . . . Chamonix*, 1958, p. 72-104. [Description and velocity distribution in four typical Tyan'-Shan' glaciers. Inyl'chek, Petrov, Karabatkak and Akad. A. A. Grigoriev.]
- BAUSSART, M. Essai de détermination par photogrammètrie de la vitesse superficielle d'un glacier du Groenland. *Union Géodésique . . . Chamonix*, 1958, p. 8-10. [Method of determining glacier velocity using aerial photographs without ground control. Results for Umiámáko Isbrae.]
- BOGOSLOVSKI, V. N. The temperature conditions (regime) and movement of the Antarctic glacial shield. *Union Géodésique . . . Chamonix*, 1958, p. 287-305. [Measurements of temperature of ice during journey from "Mirnyy" to "Pionerskaya". Theory of temperature distribution.]

- BOROVINSKI, B. A. Application des méthodes géophysiques aux investigations du glacier et de la moraine Tuyuksou. *Union Géodésique* . . . *Chamonix*, 1958, p. 328-35. [Electrical and magnetometric methods for determining glacier thickness and velocity and their application to Ledniki Tuyuksu (Kazakhstan).]
- BOUVEROT, M. Notice sur les variations des glaciers du Mont-Blanc. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 331-43. [Variation in surface height and snout of Glacier d'Argentières, Mer de Glace, Bossons, Tré-la-Tête. Velocity measurements on Mer de Glace and Glacier de Tête-Rousse.]
- COLLIER, E. P. Glacier variation and trends in run-off in the Canadian Cordillera. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 344-57. [Variation in surface height and snout and average velocities for Peyto, Athabasca and Illecillewaet Glaciers. Run-off data for rivers and relation with glacier melt.]
- DIAMOND, M., and GERDEL, R. W. Radiation measurements on the Greenland ice cap. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 403-26. [Measurement of incoming radiation, albedo and net all-wave radiation in north Greenland. Heat balance of snow surface.]
- DOLGUSHIN, L. D. Les particularités morphologiques essentielles et les régularités des mouvements des glaciers de la marge de l'Antarctide orientale (d'après les observations (les relevés) dans la région des travaux de la partie continentale de l'Expédition Complexe Antarctique de l'Académie des Sciences de l'URSS). *Union Géodésique* . . . *Chamonix*, 1958, p. 111-24. [Classification and description of glacier forms in Antarctica between longs. 78° and 110° E. Measurement of flow of Denman, Scott and Obruchev, Reid and Apfel Glaciers.]
- ERIKSSON, B. E. Glaciological studies on the Mika Glacier in Sarek, 1956/57. (Sarekstudier, 4.) *Geografiska Annaler*, Årg. 40, Ht. 1, 1958, p. 67-80. [Snow accumulation in winter 1956-57 and ablation on Mikaglaciären, 1957. North Sweden.]
- FINSTERWALDER, R. Scope, state and development of precise glacier surveys on the earth. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 520-24. [Discussion of use of surveys to give glacier dimensions, velocity and variations. List of glaciers surveyed.]
- FINSTERWALDER, R. Measurement of ice velocity by air photogrammetry. *Union Géodésique* . . . *Chamonix*, 1958, p. 11-12. [Discussion of problems involved.]
- FÖRTSCH, O., and VIDAL, H. Beiträge zur Erforschung subglazialer Talformen und der in ihnen liegenden Ablagerungen. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 553-61. [Measurement of velocity of seismic waves in ice, moraine and rock and determination of shape of bed of Kesselwandferner, Hinterseiferner, Brandnerferner and Grosser Gurglerferner. English summary p. 560-61.]
- GARAVEL, L., and POGGI, A. Comportement des glaciers alpins français depuis 1930. *Union Géodésique* . . . *Chamonix*, 1958, p. 14-36. [Tables variation of altitude of snouts and of profiles for 25 French glaciers.]
- GORBATSKIY, G. V. Tak nazyvayemyye ledniki Penka na Novoy Zemle i nekotoryye cherty rayona ikh rasprostraneniya [The so-called Penck glaciers in Novaya Zemlya and some features of the region of their distribution]. *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva [News of the All-Union Geographical Society]*, Tom 90, Vyp. 1, 1958, p. 55-58. [Description of ice-covered area round Guba Gribovaya on west coast of south island.]
- GROVE, J. M. Some structures associated with rotational flow in compound and composite cirque glaciers. *Union Géodésique* . . . *Chamonix*, 1958, p. 306-12. [Description of several compound and composite cirque glaciers in Jotunheimen, Norway.]
- HAEFELI, R. Druck- und Verformungsmessungen in Eisstollen. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 492-99. [Results of measurement of force developed on column in tunnel in Z'Muttgletscher. Closure of a circular tunnel in Jungfrauoch Eiskalotte, and velocity distribution in that ice cap.]
- HANSEN, B. L., and LANDAUER, J. K. Some results of ice cap drill hole measurements. *Union Géodésique* . . . *Chamonix*, 1958, p. 313-17. [Measurements of rate of closure and temperature of deep bore hole in Greenland.]
- HOFMANN, W. The advance of the Nisqually Glacier at Mt. Rainier, USA, between 1952 and 1956. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 325-30. [Photogrammetric measurements give increase in glacier area, thickness and flow velocity between 1952 and 1956.]
- IVAN'KOV, P. A. Oledeniye Kamchatki [Present ice cover of Kamchatka]. *Izvestiya Akademii Nauk SSSR. Seriya Geograficheskaya [News of the Academy of Sciences of the U.S.S.R. Geographical Series]*, 1958, No. 2, p. 42-53. [Description of glaciers and snow patches.]
- JOHNSON, A. Investigations on Grinnell and Sperry Glaciers, Glacier National Park, Montana. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 525-34. [Reports of retreat, changes in height of surface, and surface velocity on these glaciers.]
- JOST, W. Oberer Grindelwaldgletscher. *Die Alpen*, Jahrg. 34, Quartal 1, 1958, p. 48-49. [Advances and retreat of Oberer Grindelwaldgletscher since 1895 and shape of its bed compared with that of Unter Grindelwaldgletscher.]
- LANGWAY, C. C., jr. Bubble pressures in Greenland glacier ice. *Union Géodésique* . . . *Chamonix*, 1958, p. 336-49. [Measurement using samples from 311 m. bore hole.]
- LESICA, C. Osservazioni sui laghi del Ghiacciaio del Miage. *Bollettino del Comitato Glaciologico Italiano*, Ser. 2, No. 7, Pt. 1, 1956 [pub. 1958], p. 29-55. [A study of ice-dammed and moraine-dammed lakes in Ghiacciaio del Miage and their variations and emptyings.]
- LINDIG, G. Feinbewegungsmessungen an einigen Ostalpen-Gletschern. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 455-74. [Observations at intervals of $\frac{1}{2}$ to 1 hour show glacier flow to be regular on Gepatsch-Ferner, but jerky on Hintereis-Ferner and Gurgler-Ferner.]
- LLIBOUTRY, L., and others. Les glaciers du desert chilien, [par] L. Lliboutry, O. Gonzalez et J. Simken. *Union Géodésique* . . . *Toronto*, 1957, Tom. 4, 1958, p. 291-300. [Description of small, stagnant glaciers in northern Chile, and their surface features.]
- LLIBOUTRY, L. Étude préliminaire du Glacier de Saint-Sorlin (Alpes Françaises). *Union Géodésique* . . . *Chamonix*, 1958, p. 45-55. [Retreat of Glacier de Saint-Sorlin since 1907, present flow pattern, crevasses and shear planes.]

- LLIBOUTRY, L. La dynamique de la Mer de Glace et la vague de 1891-95 d'après les mesures de Joseph Vallot. *Union Géodésique . . . Chamonix*, 1958, p. 125-38. [Measurements of wave of increased thickness that passed down the Mer de Glace in 1891-95 and theory to explain velocity of wave.]
- MATSCHINSKI, M. Considérations sur la mécanique de la glace et spécialement des glaciers. *Union Géodésique . . . Chamonix*, 1958, p. 213-26. [Development of a general linear theory of glacier flow.]
- [MEASUREMENTS OF FLOW OF PARTICULAR GLACIERS.] Glaciological studies on Austerdalsbreen, Norway, 1955-57, [by] members of the Cambridge Austerdalsbre Expedition. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 397-402. [Reports measurements of glacier flow in and below an ice fall. Interpretations of strain rate variations. Theory of formation of wave ogives.]
- MEIER, M. F. The mechanics of crevasse formation. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 500-08. [Measurement of strain rates and of opening crevasses allow deductions to be made concerning conditions for crevasse formation.]
- MEIER, M. F. Vertical profiles of velocity and the flow law of glacier ice. *Union Géodésique . . . Chamonix*, 1958, p. 169-70. [Evidence given by vertical velocity profiles concerning flow law of ice, and programme for future work.]
- MERCANTON, P.-L. Un demi-siècle d'observations à l'échelle nivométrique de l'Eiger. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 222-24. [Report on results found in 1906-56 for height of snow surface as measured by a scale on rock wall.]
- MILLECAMPS, R. G., and LAFARGUE, M. Presentation d'une méthode électro-acoustique originale pour l'étude du mécanisme de l'écoulement et des déformations de la glace sur l'épaisseur d'un glacier. *Union Géodésique . . . Chamonix*, 1958, p. 370-82. [Methods used to measure detailed surface movements and strains throughout depth of Mer de Glace. English translation p. 377-82.]
- MILLER, M. M. Phenomena associated with the deformation of a glacier bore-hole. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 437-52. [Measurements in pipe sunk into Taku Glacier, Alaska. Interpretation of results.]
- NIELSEN, L. E. Crevasse patterns in glaciers. *American Alpine Journal*, Vol. 11, No. 1, 1958, p. 44-51. [Results of action of various stresses explained.]
- NYE, J. F. Surges in glaciers. *Nature*, Vol. 181, No. 4621, 1958, p. 1450-51. [Theory of discontinuous changes in glacier flow and of movement of regions of increased thickness down glaciers.]
- NYE, J. F. A theory of wave formation in glaciers (Cambridge Austerdalsbre Expedition). *Union Géodésique . . . Chamonix*, 1958, p. 139-54. [Theory of formation of wave ogives by ablation developed and applied to Austerdalsbre.]
- PAL'GOV, N. N. *Sovremennoye oledeniye v Zailiyskom Alatau* [Contemporary glaciation in the Zailiyskiy Alatau]. Alma-Ata, Izdatel'stvo Akademii Nauk Kazakhskoy SSR [Publishing House of the Academy of Sciences of the Kazakhskaya S.S.R.], 1958. 312 p. [Description of ice-covered area near Alma-Ata, including balance, rate of melting, and size of run-off.]
- PAL'GOV, N. N. Opredeleniye moshchnosti gornyykh lednikov metodom balansov [Determination of the thickness of valley glaciers by the balance method]. *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva* [News of the All-Union Geographical Society], Tom 90, Vyp. 2, 1958, p. 170-74. [Method of calculating approximate thickness from accumulation, ablation and movement measurements. Also published in *Vestnik Akademii Nauk Kazakhskoy SSR* [Messenger of the Academy of Sciences of the Kazakhskaya S.S.R.], No. 4 (133), 1956, p. 40-45.]
- PÉGUY, C.-P. Mesures d'ablation au Hofsjökull (Islande) 1954. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 320-24. [Observations of ablation on Hofsjökull in 1954 and its relation with meteorological variables.]
- PÉGUY, C.-P., and others. Études sur le Glacier de Saint-Sorlin, [par] C.-P. Péguy, A. Cailleux, S. Daveau, L.-E. Hamelin, M. Léger, F. Durand-Dastès, A.-M. Rudolph, E. M. Shaw [et] M. Ahmad. *Revue de Géographie Alpine*, Tom. 46, Fasc. 3, 1958, p. 405-62. [Series of short papers on regime of glacier and morphology and granulometry of moraines.]
- PERETTI, L., and LESCA, C. Rilevamento stereofotogrammetrico dei Ghiacciai nell' Alta Valnontey (Gruppo del Gran Paradiso). *Bollettino del Comitato Glaciologico Italiano*, Ser. 2, No. 7, Pt. 1, 1956 [pub. 1958], p. 13-18. [Short account of photogrammetric survey made 10-15 August 1953 of Ghiaccio della Triolazione, Ghio. de Grand Croux, Ghio. di Money and Ghio. del Coupé de Money. Map at 1 : 8000.]
- PILLEWIZER, W. Neue Erkenntnisse über die Blockbewegung der Gletscher. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 429-46. [Discussion of occurrence of *Blockschollen* movement in glaciers and possible causes.]
- SCHIMPP, O. Der Eishaushalt am Hintereisferner in den Jahren 1952-53 und 1953-54. *Union Géodésique . . . Toronto*, 1957, Tom. 4, 1958, p. 301-14. [Measurement of glacier flow, accumulation and ablation for two years at various places throughout Hintereis-Ferner. Deductions concerning glacier regime.]
- SCHYTT, V. The inner structure of the ice shelf at Maudheim as shown by core drilling. *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstittutt), Vol. 4, C, 1958, p. 113-52. [Lat. 71° 03' S., long. 10° 56' W.]
- SHARP, R. P. Malaspina Glacier, Alaska. *Bulletin of the Geological Society of America*, Vol. 69, No. 6, 1958, p. 617-46. [Report of work on this glacier covering general description, regime, structural features, flow determined in a bore hole.]
- SHARP, R. P., and EPSTEIN, S. Oxygen-isotope ratios and glacier movement. *Union Géodésique . . . Chamonix*, 1958, p. 359-69. [Use of this technique to solve specific problems. Examples from Saskatchewan and Malaspina Glaciers.]
- STEINEMANN, S. Résultats expérimentaux sur la dynamique de la glace et leurs correlations avec le mouvement et la pétrographie des glaciers. *Union Géodésique . . . Chamonix*, 1958, p. 184-98. [Results of laboratory tests on ice are used to show how structure of glaciers results from metamorphic processes, particularly recrystallization.]
- SWITHINBANK, C. W. M. Glaciology. I. The morphology of the ice shelves of western Dronning Maud Land. *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstittutt), Vol. 3, A, 1957, p. 1-37.

- SWITHINBANK, C. W. M. Glaciology. I. The regime of the ice shelf at Maudheim as shown by stake measurements. *Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results* (Oslo, Norsk Polarinstitut), Vol. 3, B, 1957, p. 41-75.
- THORARINSSON, S. The jökulhlaup from the Katla area in 1955 compared with other jökulhlaups in Iceland. *Jökull*, År 7, 1957, p. 21-25.
- TONINI, D. D'une extension de l'équation de continuité aux glaciers. *Union Géodésique . . . Chamonix*, 1958, p. 227-28. [Consideration of continuity conditions used to introduce characteristic time of a glacier.]
- TSCHAEN, L., and BAUER, A. Le mouvement de la partie centrale de l'inlandsis du Greenland [sic]. *Union Géodésique . . . Chamonix*, 1958, p. 37-42. [Movement of French markers left in Greenland. Corrects error in earlier French results which invalidates calculations of Wallerstein, *Journal of Glaciology*, Vol. 3, No. 23, 1958, p. 207-10.]
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